

JACKSON COUNTY ORDINANCE #\_\_\_\_\_

**AN ORDINANCE REGULATING THE PLACEMENT OF WIND  
ENERGY CONVERSION SYSTEMS (WECS) ON PROPERTY  
LOCATED IN THE UNINCORPORATED AREAS OF JACKSON COUNTY, IOWA**

**BE IT ENACTED BY THE JACKSON COUNTY BOARD OF SUPERVISORS**

**SECTION 1. PURPOSE**

The purpose of this ordinance is to establish guidelines for the siting, design, and construction of Wind Energy Conversion Systems (WECS) and substations which generate electricity for use at the location of the WECS or to be sold to wholesale or retail markets; **all the while, balancing the concerns of preserving the natural beauty, visual resources, protecting natural resources, water quality and wildlife of Jackson County, Iowa.** The requirements of this ordinance shall apply to all WECS constructed after the effective date of this ordinance. Before construction of a WECS is started, a properly issued permit is required. No modification or alteration to an existing WECS shall be allowed without full compliance with this ordinance.

**SECTION 2. DEFINITIONS**

For use in this ordinance, certain words used herein shall be defined as follows:

**Administrator:** Jackson County Zoning Administrator or other person(s) designated by the Jackson County Board of Supervisors.

**Applicant:** The owner, operator or developer of a WECS.

**Aggregated Project:** Aggregated projects are those which are developed and operated in a coordinated fashion but may have multiple entities separately owning one or more of the individual WECS within the larger project. Associated infrastructure such as power lines and transformers that service the facility may be owned by a separate entity but are also included as part of the aggregate project.

**Catastrophic Damages:** Any damage by act of fire, severe weather, structural or mechanical failure that causes the WEC-S unit to be inoperable.

**Commercial Wind Energy Conversion System (C-WECS):** A WECS equal to or greater than (100/40) kW in total name plate generating capacity or greater than 100' in height.

**Easement:** A legal interest in land, as defined in a document recorded in the office of the Jackson County Recorder, granted by the landowner to another person or entity, which allows that person(s) or entity(ies) the use of all or a portion of the landowner's land, generally for a stated purpose and duration, including, but not limited to, access or placement of utilities.

**Electromagnetic Interference (EMI):** The interference to communication systems created by scattering of electromagnetic signals.

**Fall Zone:** The area defined as the furthest distance from a tower base, in which a guyed tower or self-supporting tower will collapse in the event of a structural failure. This area includes the total height of the WECS structure based upon the tower's structural design plus ten (10) percent.

**Feeder Line:** Any power line that carries electrical power from one or more wind turbines or individual transformers associated with individual wind turbines to the point of interconnection with the electrical power grid. In the case of interconnection with the high voltage transmission systems, the point of interconnection shall be the substation serving the WECS.

**Federal Aviation Administration (FAA):** In the service of its regulatory responsibilities, the FAA sets safety and efficiency standards for all U.S. airports and oversees domestic aviation through its Flight Standards District Offices. The FAA is primarily responsible for civil aviation.

**Landowner(s):** All persons, or entity with deeded or contract interest in the property in which the WECS operator or WECS owner / developer has obtained an easement or a lease from to use property for the intent of accessing, installing, or maintaining WECS related equipment or to place, install or maintain WECS related equipment.

**Meteorological Tower (MET):** For the purpose of this ordinance, meteorological towers are those towers which are erected primarily to measure wind speed and direction plus other data relevant to siting WECS.

**Non-Commercial WECS (Non-C-WECS):** A WECS consisting of a wind turbine, a tower, and associated control or conversion electronics, which has a rated capacity of less than 100 kW, a height limit not to exceed 100', and which is intended to primarily reduce on-site consumption of utility power.

**Operator:** The entity responsible for the day-to-day operation and maintenance of the WECS, including third party subcontractors.

**Owner/Developer:** Entity or entities with an equity interest in the WECS, including their respective successors and assigns. Owner does not mean (i) the property owner from whom the

land is leased for locating the WECS (unless the landowner has an equity interest in the WECS); or (ii) any person holding a security interest in the WECS solely to secure an extension of credit, or a person foreclosing on such security interest provided that after foreclosure, such person seeks to sell the WECS at the earliest practical date.

**Professional Engineer:** A qualified individual who is licensed in the state of Iowa as a professional engineer.

**Public Lands:** Lands that are managed by federal government, state government, local government or sovereign tribal nations.

**Residence:** A house, apartment or other shelter that is the abode of a person, family, or household.

**Rotor Diameter:** The diameter of the circle described by the moving rotor blades of a WECS.

**Sensitive Areas:** A geographic area defined by natural features where there is a significant risk of groundwater degradation from activities conducted at, under or near the land surface. A sensitive area includes but is not limited to sinkholes, rivers, streams, creeks, natural springs, lakes and farm ponds.

**Setback:** The minimum required distance from the property line **or other point of reference**.

**Shadow Flicker:** The alternating pattern of sun and shade caused by the wind tower blades casting a shadow.

**Structure:** Anything constructed or erected on the ground or attached to the ground, including but not limited to, antenna(s), buildings, sheds, cabins, dwellings (built on-site or factory-built homes), signs, storage tanks, towers, windmills, and other similar uses.

**Substation:** The apparatus that connects the electrical connection system of the WECS and increases the voltage for connection with the utility's (or owner's) transmission lines.

**Total Height (WECS):** The highest point, above ground level, reached by the rotor tip or any other part of the WECS. Total height restriction of C-WECS shall be no greater than 400'.

**Tower:** The vertical structure that supports the electrical generator, nacelle, rotor blades, or meteorological equipment.

**Transmission Line:** Those electrical power lines that carry voltages of at least 69,000 volts (69 KV) and are primarily used to carry electrical energy over medium to long distances rather than directly interconnecting and supplying electrical energy to retail customers.

**Visual Resources:** The natural character of the county including the topography, waterways, wetlands, scenic views, natural vegetation and wooded areas.

**Wind Energy Conversion System (WECS):** All necessary devices that together convert wind energy into electricity, including the rotor, nacelle, generator, WECS tower, electrical components, WECS foundation, transformers, electrical cabling, and meteorological towers from the WECS tower to the substation(s).

**WECS Project:** The collection of WECS and substations as specified in the siting approval application pursuant to Section 3 of this ordinance.

**Wind Turbine:** A wind turbine is any piece of electrical generating equipment that converts the kinetic energy of blowing wind into electrical energy through the use of airfoils or similar devices to capture the wind.

### **SECTION 3. SITING APPROVAL APPLICATION REQUIREMENTS**

After a required pre- application meeting with the Jackson County Board of Supervisors or their designated representative, the applicant for the siting and construction of a WECS shall file an application with the Jackson County Zoning Administrator, accompanied by a fee as established by the Jackson County Board of Supervisors, and payable to the Jackson County Zoning Department, Jackson County, Iowa. WECS units will be allowed in all districts except R-1 Residential District. Non-C-WECS units will be treated as accessory structures in A-1, M-1, M-2, and C-1 districts. C-WECS applications will be by special exception use to be reviewed by the Board of Adjustment. Each wind turbine will require its own applications and each will be addressed individually with the Board of Adjustment. Normal Board of Adjustment processes will be standard, except for the notification of area property owners will be extended to notification of property owners within one (1) mile of the property lines of the C-WECS tower sites.

A. In addition to the submittal requirements defined for permit application, all applications for C-WECS must submit the following information (as applicable).

1. A WECS project summary, including, to the extent possible: (1) a general description of the project, including its approximate nameplate generating capacity; the potential equipment manufacturer(s), type(s) of WECS, number of WECS, and the name plate generating capacity of each WECS; and (2) a description of the applicant, owner, developer and operator, including their respective business structures.
2. The name, address, contact phone numbers and emails of project applicants.
3. The name, address, contact phone numbers, and emails of the project owner.
4. The legal description and address of the project.
5. Tower height, rotor diameter, and total height of all wind turbines and means of interconnecting with the electrical grid.

6. Site layout, including the location of property lines, wind turbines, electrical wires, interconnection points with the electrical grid, and all related accessory structures. The site layout shall include distances and be drawn to scale.
7. Engineer's certification(s) as required in these supplemental standards. All required engineering specifications provided as part of the application process shall be reviewed by the Jackson County Engineer to ensure documents are prepared, stamped and signed by a duly licensed professional engineer under the laws of Iowa.
8. Documentation of land ownership or legal control of the property and Proof of landowner consent.
9. The latitude and longitude of individual wind turbines.
10. A United States Geological Survey (U.S.G.S.) topographical map, or map with similar data, of the property and surrounding area, including any other C-WECS within 10 rotor diameters of the proposed C-WECS.
11. Location of wetlands, scenic, and natural areas [including bluffs] within 1,320 feet of the proposed C-WECS.
12. An Acoustical Analysis.
13. FAA Permit Application: Evidence should be provided that a permit application was made to FAA and must have FAA approval prior to beginning construction.
14. Location of all known communications towers/facilities within 2 miles of the proposed C-WECS.
15. A detailed decommissioning plan shall include means by which bonding will be acquired through an "A Rated Bonding Company." The decommissioning costs and bonding amount shall be reviewed by a third party to be a licensed engineer specializing in the construction or decommissioning of C-WECS units to be chosen by Jackson County Board of Supervisors, (expenses to be covered by the owner of the WEC-S unit), and the Jackson County Engineer and approved by the Jackson County Attorney and bond secured before issuance of a zoning permit.
16. Description of potential impacts on nearby C-WECS and Non C-WECS and wind resources on adjacent properties.
17. The applicant, owner, developer or operator in conjunction with the Jackson County Zoning Administrator and the Jackson County Emergency Management Administrator shall develop an Emergency Action Plan and have it in place before permitting is to be granted.
18. If the project does not conform to the requirements for C-WECS and meteorological towers set forth in this ordinance, the Board of Adjustment may consider a request for a variance **or special exception** from the requirements after the following has occurred:
  - a) The Board of Adjustment will follow public hearing timelines to public notice.

**b)** Notification of the hearing will be sent to all adjoining property owners as well as neighbors within one (1) mile from the property line of the proposed site/parcel of land. The notice will be sent via regular US Postal Service by the Jackson County Zoning Department on behalf of the Board of Adjustment.

The Board of Adjustment may grant the variance **or special exception** request if all of the standards have been met for the variance **or special exception**.

- 19.** The Applicant shall notify Jackson County Zoning Department of any changes to the information provided in Section 3 that occur while the siting approval application is pending.
- 20.** The Applicant is responsible for reimbursing the County for legal costs incurred by Jackson County during the application process. All fees and legal costs shall be received by Jackson County before the issuance of the permit.
- 21.** The Applicant shall provide mapping of any “sensitive areas” within 1320 feet radius of the proposed site. No turbines shall be built within 1000’ of any known or mapped sensitive areas. For turbines built between 1000’ and 1320’ of sensitive area, a mitigation plan which shows a buffer strip of perennial grasses and/or native trees with a minimum 30-foot width around the sensitive area and a timeline for completion within 30 days of the erection of the turbine.
- 22.** The Applicant shall provide information of the type of fire suppression and fire detection systems that will be installed in the turbine and substation and how it will be monitored.

#### **SECTION 4. GENERAL REQUIREMENTS FOR C-WECS AND METEOROLOGICAL TOWERS**

**A.** In addition to satisfactorily addressing the considerations set forth in the previous section, the applicant must provide documentation that the following requirements have been met.

- 1. Color and Finish.** Finishes shall be matte or non-reflective. At C-WECS sites, the design of the buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening, and landscaping that will blend the C-WECS to the natural setting and existing environment.
- 2. Tower Configuration.** All wind turbines, which are part of a C-WECS, shall be installed with a tubular, monopole type tower. Meteorological towers may be guyed towers.
- 3. Lighting.** C-WECS sites shall not be artificially lit, except to the extent required by the Federal Aviation Agency (FAA). The developer shall request within the filing of the application with the FAA, that Aircraft Detection Lighting Systems (A.D.L.S.) be installed on all wind turbines where the FAA will allow. A.D.L.S. will reduce the impact of continuous red flashing nighttime lights upon residents, communities, and migratory

birds. Exceptions may be made for meteorological towers, where concerns exist relative to aerial spray applicators.

4. **Signage.** Upon completion of the WECS Tower, the owner's company name and/or logo and the phone number and name of the person to contact in case of emergency shall be placed upon the base of the WECS Tower and entrance to any enclosure fence. Wind turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer, owner, or operator of the C-WECS sites. Should the ownership of the towers or management transfer, name updates (contact information) and emergency action plan, have up to 10 days to be updated.
5. **Feeder Lines.** All communications and feeder lines, equal to or less than 34.5 kV in capacity, installed as part of a C-WECS shall be buried not less than forty-eight (48) inches deep.
6. **Waste Disposal.** Solid and hazardous wastes, including but not limited to crates, materials, damaged or worn parts, as well as used oils and lubricants, shall be removed from the site **within 45 days** and disposed of in accordance with all applicable local, state, and federal regulations.
7. **Minimum Ground Clearance.** The blade tip of any wind turbine shall, at its lowest point, have ground clearance of no less than fifty (50) feet.
8. **Signal Interference.** The applicant shall provide applicable microwave transmission providers and the Emergency Management Administrator with copies of the project summary and site plan, in accordance with Section 3, of this ordinance. The applicant shall minimize and mitigate any interference with electromagnetic communications, such as radio, telephone or television signals caused by any C-WECS. If, after construction of the WECS, the owner and operator receive a written complaint related to the above-mentioned interference, the owner or operator shall take reasonable steps **to determine if their equipment is the reason for the interference** and to respond to the complaint.
9. **Federal Aviation Administration.** All C-WECS shall comply with FAA standards and permits.
10. **Electrical Codes and Standards.** All C-WECS and accessory equipment and facilities shall comply with the National Electrical Code and other applicable standards.
11. **Setbacks.** The following setbacks and separation requirements shall apply to all wind turbines and meteorological towers:
  - a) **Property Lines.** Setback from **ANY** neighboring property lines shall be no less than 1500'.
  - b) **Public Right-of-Way.** Setbacks from public right-of-way, railroad right-of-way, power lines and structures shall be no less than 1500'.

c) **Communication and Electrical Lines.** Each wind turbine and meteorological tower shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 1500', determined from the existing power line or telephone line.

**12. Sound Analysis.** No operating wind energy system equipment shall produce decibel levels exceeding any of the following limitations, except for the initial construction and routine maintenance. Adequate setbacks and effective sound mitigating equipment shall be used to comply with these limitations:

- a) The average hourly turbine decibel level shall not exceed fifty (50) dBA as measured from the property line of any non-participating parcel. The average decibel limit is specific to the source of the sound and does not count against cumulative ambient decibel levels as established in a baseline acoustic evaluation.
- b) The average hourly decibel level may be exceeded during short-term events such as severe windstorms.
- c) A pre and post-construction sound evaluation shall be completed by a certified professional by the Institute of Noise Control Engineering (INCE), or a licensed Professional Engineer (PE) to verify compliance with the County's standards.
- d) Every five (5) years a noise evaluation shall be completed, at the Operators expense, by a certified professional by the Institute of Noise Control Engineering (INCE), or a licensed Professional Engineer (PE) to verify compliance with the County's standards.
- e) The owner(s) of adjacent property may voluntarily agree, by written and recorded **waiver**, to a higher average hourly decibel level as measured from any property line of a non-participating parcel.

**13. Safety.**

- a) All wiring between wind turbines and the C-WECS substation shall be underground. If the owner / developer can demonstrate the need for an overhead line and the acceptance of landowners for this line, such an option may be approved conditionally by the Jackson County Board of Adjustment.
- b) Wind turbines and meteorological towers shall not be climbable up to fifteen (15) feet above ground level.
- c) All access doors to wind turbines, meteorological towers, and electrical equipment shall be locked when not being serviced.
- d) Appropriate visible warning signage shall be placed on wind turbine towers, electrical equipment, and C-WECS entrances.

- e) For all C-WECS, the manufacturer's engineer or another qualified engineer shall certify that the turbine, foundation, and tower design of the C-WECS is within accepted professional standards, given local soil and climate conditions.
- f) All WECS shall be equipped with a redundant braking system. This includes both aerodynamic over speed controls (including variable pitch, tip, and other similar systems) and mechanical brakes. Mechanical brakes shall be operated in a fail-safe mode. Stall regulation shall not be considered a sufficient braking system for over speed control.
- g) For all guyed MET towers, visible and reflective objects, such as plastic sleeves, reflectors, or tape, shall be placed on the guy wire anchor points and along the outer and innermost guy wires up to a height of twelve (12) feet above the ground.
- h) Exceptions to this section may be made for meteorological towers, where concerns exist relative to aerial spray applicators.
- i) Specific signage related to aerial spray applicators shall be displayed and have phone numbers and other contact information, so requests can be made by aerial applicators to shut down turbines for a specific period allotting time for safe aerial spray applications.
- j) Electromagnetic Interference (EMI) No wind energy device / facility shall be located within the microwave path of an emergency communication tower. Any wind energy device / facility shall not cause interference with existing radio signals, telephone service, television reception (including satellite television reception) or microwave signals. If it is determined that the interference is being created due to the wind energy device / facility, the owner shall take the necessary corrective measures to eliminate interference.
- k) All turbines and substations shall be equipped with operational automatic fire detection and fire suppression systems. The fire suppression and detection systems shall be designed appropriate to the materials and conditions present in the turbine or substation. Alarm signals from detection systems shall be transmitted to a central station, proprietary, or remote station service to a constantly attended location. Alarm and fire protection systems shall be installed in accordance with state and federal standards and inspected by a state fire marshal prior to operation. Such fire suppression and detection equipment shall be tested and verified operational on an annual basis by personnel certified for such validation by an independent third-party chosen by the County and paid for by the owner or operator. The report then to be turned into Jackson County for verification of compliance.**

**14. Shadow Flicker.**

- a) The shadow flicker requirements of this section apply to a non-participating ~~property, residence, or structures that exist when the owner files an application in accordance with Section 3 of this ordinance with the Zoning Administrator.~~
- b) An owner / developer shall design the proposed C-WECS or Non-C-WECS to produce "zero hours" of shadow flicker to be projected onto a neighboring ~~property, minimize shadow flicker at a residence, or structures to the extent reasonably practicable. This is to be achieved through shadow flicker computer modeling and curtailment of operation.~~
- c) An owner of a C-WECS shall use shadow flicker computer modeling to estimate the amount of shadow flicker anticipated to be caused by the C-WECS and shall design the wind energy conversion system so that computer modeling indicates that no non-participating residence, or structure will experience more than thirty (30) hours per year of shadow flicker under planned operating conditions.
- d) An owner shall operate the C-WECS in a manner that does not cause more than thirty (30) hours per year of shadow flicker occurring on the walls or windows at a non-participating residence or structure. If a non-participating residence, or structure has more than thirty (30) hours per year of shadow flicker under the C-WECS normal operating conditions, the owner shall use operational curtailment to comply with this section.
- e) An owner of a C-WECS shall work with an owner of a non-participating residence, or structure to mitigate the effects of the shadow flicker to the extent reasonably practicable.
- f) An owner of a C-WECS shall provide reasonable shadow flicker mitigation at the owner's expense for a non-participating residence, or structure experiencing twenty (20) hours or more per year of shadow flicker.
- g) An owner of a C-WECS shall model shadow flicker and a non-participating residence, or structure is eligible for mitigation if computer modeling shows the shadow flicker at the previously listed structures will be twenty (20) hours or more per year. An owner of a non-participating residence or structure is not required to document the actual hours per year of shadow flicker if modeling indicates the structure is eligible for mitigation.
- h) An owner of a C-WECS may provide shadow flicker mitigation for any a non-participating residence, or structure in addition to the mitigation required under paragraph (f).

- i) The requirements under par. (f), to mitigate shadow flicker shall apply when the owner receives a written complaint or request for mitigation regarding shadow flicker from an eligible non participating residence or structure within two (2) years of commencement of operation of the C-WECS.
  - (i) If shadow flicker mitigation is required, the owner of the C-WECS shall allow the owner of the non participating residence or structure to choose a preferred reasonable mitigation technique, including installation of window coverings or green plantings at the wind energy conversion system owner's expense. The requirement for shadow flicker mitigation is limited to window(s) which are directly impacted by shadow flicker.
  - (ii) In the event the shadow flicker resulting from the C-WECS exceeds the criteria listed above, a waiver to said shadow flicker may be granted by the Board of Adjustment provided that the following has been accomplished:
  - (iii) Written consent from the affected property owners has been obtained stating that they are aware of the C-WECS, and the shadow flicker limitations imposed by this ordinance, and that consent is granted to allow shadow flicker to exceed the maximum number of hours per year otherwise allowed; and
  - (iv) If the applicant wishes the waiver to apply to succeeding owners of the participating property, a permanent shadow flicker impact easement shall be recorded in the Office of the Jackson County Recorder which describes the burdened properties and which advises all subsequent owners of the burdened property that shadow flicker in excess of the maximum permitted hours per year permitted by this ordinance may exist on or at the burdened property.

## **SECTION 5. AVOIDANCE AND MITIGATION OF DAMAGES TO PUBLIC INFRASTRUCTURE**

1. **Roads.** Applicants shall identify all roads to be used for the purpose of transporting C-WECS, substation parts, concrete, and/or equipment for construction, operation, or maintenance of the C-WECS site and obtain applicable weight and size permits from the impacted road authority(ies) prior to construction.
2. **Existing Road Conditions.** The applicant shall conduct a pre-construction baseline survey, in coordination with the impacted local road authority(ies) to determine existing road conditions for assessing potential future damage. The survey shall include photographs and a written agreement to document the condition of the public facility. The applicant is responsible for on-going road maintenance and dust control measures identified by the Jackson County Engineer during all phases of construction. The

applicant is responsible for any costs required to repair roads, bridges, and/or culverts to pre-construction baseline condition. Jackson County reserves the right to halt operations if road conditions deteriorate to a point that creates a hazard to the public. The Jackson County Engineer will conduct a post construction survey with the applicant and submit an invoice for all damages, to be paid within 30 days of receipt of the invoice. Applicants shall provide an assurance or performance bond of 130% of the estimated cost to bring the roads back up to the standards that existed at the time the pre-construction baseline survey was conducted.

3. **Drainage System.** The applicant shall be responsible for immediate repair for damage to public drainage systems stemming from construction, operation, or maintenance of the C-WECS. All bridge and culvert crossings must be preapproved by the Jackson County Engineer
4. **Performance Bond or Equivalent Financial Instrument** The applicant shall be required to hold a performance bond with their contractor/builder assuring that 100% of the project site is completed as shown in the application documents. A copy of the performance bond shall be submitted to the Jackson County Attorney's office before construction commences as part of permitting requirements.

## **SECTION 6. DISCONTINUATION, CATASTROPHIC FAILURE AND DE-COMMISSIONING**

1. C-WECS shall be considered discontinued use after one (1) year without energy production or non-use, unless a plan is developed and submitted to the Administrator outlining the steps and schedule for returning the C-WECS to service. **All C-WECS and accessory facilities shall be removed to four (4) feet below ground level within ninety (90) days of the discontinuation of use.** An extension to such a period may be granted by the Board of Adjustment provided that the owner/ developer or Operator submits an acceptable alternate plan for the decommissioning and thereafter diligently pursues such decommissioning until completed. At the time of application, each C-WECS shall have a decommissioning plan outlining the anticipated means and cost of removing C-WECS at the end of their serviceable life, upon becoming discontinued in use or in case of catastrophic failure. The soil grade will also be restored following disturbance caused in the removal process. The cost estimates shall be made by a professional engineer licensed in the State of Iowa and reviewed by the Jackson County Engineer for accuracy and potential errors or omissions in the estimated costs. The plan shall also identify the financial resources or bonding that will be available to pay for the decommissioning and removal of the C-WECS and accessory facilities. At the expense of the owner / operator, cost estimates for decommissioning shall be reviewed by the owner / operator and

Jackson County Board of Supervisors or their appointed representative, every five (5) years. Jackson County reserves the right to verify that adequate decommissioning terms are contained in the landowner easement. A waiver or agreement with the landowner would be allowed should a landowner want to keep certain parts of the infrastructure.

2. A C-WECS shall be considered a catastrophic failure should it become inoperable due to fire, a natural disaster, severe weather event, or other serious structural or mechanical failure that causes the WECS unit to be inoperable. In the case of such catastrophic failure:
  - a) A written plan shall be submitted to the Jackson County Board of Supervisor within 30 days of the event rendering the C-WECS inoperable. The written plan shall detail a timeline for cleanup and debris removal.
  - b) The plan shall not extend out beyond 120 days from the day of the event rendering the C-WECS inoperable.
  - c) A concerted effort for clean-up must be notable within 45 days of the event.
  - d) Penalties for violation of these times lines will start one day after the missed deadline.

## **SECTION 7. WILDLIFE MONITORING AND MITIGATION PLAN (WMMP)**

1. The C-WECS facility owner/ developer / operator shall submit a WMMP to mitigate risk to avian and bat populations during the construction and operation phases of the project. The purpose and procedures shall be designed to ensure:
  - a) Avian and bat fatalities and secondary effects on wildlife are minimized.
  - b) All C-WECS projects SHALL comply with both federal and state wildlife regulations AND recommendations.
  - c) Training shall be provided to the construction contractor and operations and maintenance staff.
  - d) Coordination between the owner, project developer and operators, wildlife agencies including Iowa Department of Natural Resources (IDNR), and the Iowa Utilities Board (IUB) is effective and continuous.
2. The WMMP shall include, at a minimum, a narrative including the following:
  - a) Local, state and federal regulatory framework.
  - b) Site characterization.
  - c) Field studies documenting C-WECS project area wildlife conditions and predict project impact.

(i) A baseline study of the avian and bat habitat within the project boundary and a 2-mile perimeter outside the project boundary. It shall be conducted by a third-party licensed professional and approved by Jackson County.

d) Preconstruction/construction avoidance and minimization measures.

e) Operation and maintenance procedures.

(i) At the cost of the owner, post construction avian and bat fatality monitoring is conducted by third party licensed professional every three years following completion of the project construction phase. Issues or concerns in need of correction to be identified by the licensed professional shall be presented to Jackson County and the owners. It is the responsibility and cost of the owner to make the appropriate corrections.

(ii) Upgrades or retrofits to existing C-WECS should not result in increased avian/bat collisions. The 3-year monitoring timeline shall restart after 12 months of discontinued operation of any C-WECS following a repair, retrofit, or repowering event.

## **SECTION 8. WATER QUALITY PROTECTIONS**

1. C-WECS shall not be built within 1000 feet of a known mapped “Sensitive Area.” C-WECS built within 1320 feet of a known sensitive areas must adhere to a water protection plan which includes installing and maintaining a buffer strip of perennial grasses and/or native trees with a minimum 30-foot width around the sensitive area and a timeline for completion within 30 days of the erection of the turbine. If there are more restrictive water quality setback issues by the State or other National regulatory agency, that will supersede this part of the ordinance.

## **SECTION 9. STATE AND NATIONAL SCENIC BYWAY VISUAL RESOURCE PROTECTIONS AREAS**

1. No C-WECS shall be allowed within 5 miles of the center line from each side of a Scenic Byway. It is recognized that Jackson County, Iowa has the Grant Wood Scenic Byway that traverses east and west across the county and the National Great River Road that runs completely North and South through the county.

The Grant Wood Scenic Byway is the State designated scenic byway in Jackson County. Jackson County, being in the southernmost part of the Driftless region, offers panoramic views of the area that provide awe and wonder to all of those who may have believed that all of Iowa is all flat farm ground.

The Iowa Great River Road traverses along the entire east border of the county. It is primarily situated along the Mississippi River and it mainly follows Hwy 52. This is part of the National Scenic Byway. The part of the byway that goes through Jackson County, Iowa, is surrounded by a mix of rolling hills, towering bluffs, lush crop ground, sandy prairies, a large wildlife management area, and loads of history.

The 2015 Corridor Management Plan for the Iowa Great River Road outlines many targeted actions to conserve, maintain, develop and promote the part of the National Scenic Byway that is in Iowa. Some of which include: All levels of government invest to conserve, develop, and promote the Iowa Great River Road Corridor.

## **SECTION 10. DEVELOPMENT BUFFERS AROUND INCORPORATED CITY LIMITS WITHIN JACKSON COUNTY**

1. **It is recognized that 3 cities in Jackson County have co-jurisdiction over subdivisions (including plats of survey) within 2 miles of their cities. (Preston, Bellevue and Maquoketa.) This co-jurisdiction approval is to prevent locking up land for potential future city expansion. Other towns in the county have passed resolutions asking for buffers around their town for C-WECS development. To maintain a consistent buffer around the communities in our county and as to not impede future expansions to allow for possible future city development, no C-WECS shall be built within 2 miles of an incorporated city limits.**

## **SECTION 11. NON-COMMERCIAL WECS (Non C-WECS)**

1. **Non-Commercial WECS are subject to the following standards.** In addition to satisfactorily addressing all other requirements of this ordinance, the applicant must provide documentation that the following requirements have also been met.
  - a) **Tower Height:** Non C-WECS shall not exceed one hundred (100) feet in height. Non C-WECS shall be subject to all height limitations as necessary to comply with other sections of this ordinance and those imposed by FAA regulations.
  - b) **Setbacks:** No part of the wind system structure, including guy wire anchors, may extend closer than minimum setbacks for the district in which the tower is erected. The distance of the base of the tower shall be a minimum of 110% of the total tower height.

c) **Sound:** Non C-WECS shall not exceed 50 dBA, as measured at ~~the property line. closest neighboring inhabited dwelling.~~

In the event the ambient sound level (exclusive of the development in question) exceeds the applicable standard given above, the applicable standard shall be adjusted to equal the ambient sound level. The ambient sound level shall be expressed in terms of the highest whole number sound pressure level in dBA, which is exceeded for more than five (5) minutes per hour. Ambient sound levels shall be measured ~~at the property line. the exterior of potentially affected existing residences or from inhabited structures over 144sq'~~ that are permanently occupied by humans or livestock. Ambient sound level measurement techniques shall employ all practical means of reducing the effect of wind generated sound at the microphone. Ambient sound level measurements may be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operation, provided that the wind velocity does not exceed thirty (30) mph at the ambient sound measurement location.

d) **Manufacturer's engineering specifications:** Applications for Non C-WECS shall be accompanied by the manufacturer's documents in regard to standard drawings of the wind turbine structure, including the tower, base, and footings and documentation of engineering standards and proper onsite construction. All manufacturers' engineering and specifications for construction must be followed.

e) **Compliance with FAA Regulations:** Non C-WECS must comply with applicable FAA regulations, including any necessary approvals for installations close to airports.

f) **Compliance with National Electric Code:** Applications for Non C-WECS shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for a determination that the manner of installation conforms to the National Electric code. This information is frequently supplied by the manufacturer.

g) **Utility Notification:** No Non C-WECS shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an interconnected customer-owned generator. Off-grid systems shall be exempt from this requirement.

## **SECTION 12. PERMITS**

All WECS, C-WECS, and MET Towers are subject to zoning permit requirements. Permit issuance is contingent upon documentation of FAA approval and approval of the Jackson County Board of Adjustment.

#### **SECTION 13. REPEALER**

All ordinance(s) in conflict with the provisions of this ordinance are hereby repealed.

#### **SECTION 14. SEVERABILITY**

Should any section or provisions of this ordinance be declared by the courts to be invalid or unconstitutional, such decision shall not affect the validity of the ordinance as a whole, or any part thereof other than the part so declared to be invalid or unconstitutional.

#### **SECTION 15. PENALTY**

Any person, persons, firms, partnerships, or corporations, whether acting alone or in concert with any other, who violates this ordinance, shall be guilty of a County Infraction and shall be penalized as set forth in Ordinance #282 of Jackson County, Iowa.

#### **SECTION 16. EFFECTIVE DATE**

This ordinance shall be in effect after its final passage, approval and publication as provided by law.

Passed and approved this \_\_\_\_\_th day of \_\_\_\_\_ 2025.

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Mike Steines, Chairperson  
Jackson County Board of Supervisors

Attest: \_\_\_\_\_  
Alisa Smith, County Auditor